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(54) **Adjustable support particularly for radiators**

(57) An adjustable support particularly for radiators has a resting member, a contoured portion which is joined monolithically to the upper end of the resting member and can be associated, by sliding, with the lower portion of a radiator.

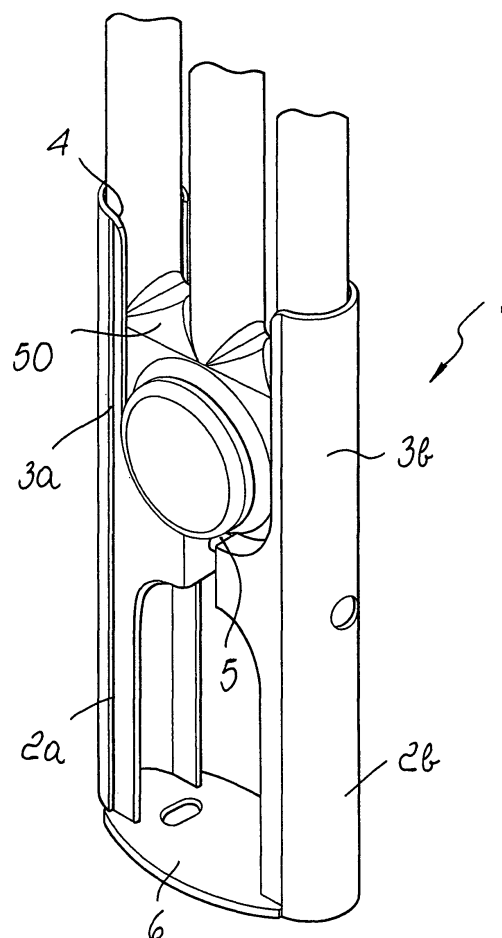


Fig. 1

Description

[0001] The present invention relates to an adjustable support particularly for radiators.

[0002] As is known, radiators are very often supported by using stands that are interposed between the floor and the lower portion of the radiators. Those stands generally have a very simple structure, which in most cases consists of a single tubular body provided with a base, which is anchored to the floor and with a head which supports the horizontal manifolds of radiators. The head is fastened to the manifold by means of U-bolts.

[0003] Such construction has several problems that, to a good extent, are caused by its limited technical sophistication.

[0004] The first drawback in fact resides in the poor stability of the stands, due both to the presence of a single central tubular body and to the fact that the U-bolts may rotate about the manifolds as a consequence of impacts or stresses.

[0005] Another drawback of the stands described above lies in the mechanical stresses that the U-bolts cause on the radiator manifolds in the connecting point of the members, that are particularly weak and delicate.

[0006] In other cases, in order to at least partly solve the problem of the stability of the stands, pipe segments are welded as a support on the lower portion of radiators, but even such construction has a number of drawbacks, linked mostly to the slowing of the production process, which inevitably affects the final costs of the product. The pipe segments in fact must be custom-made and subsequently welded, forcing a slowing or even a stop of the automatic lines for manufacturing radiators. It should also be noted that the presence of protruding bodies, that are rigidly coupled to the bottom of the radiators, causes substantial space problems during transport and storage.

[0007] Finally, one cannot dismiss the aesthetic impact of the structures described above, that in both cases clearly have the appearance of a foreign object with respect to the radiator, with an inevitable reduction of overall value.

[0008] The aim of the present invention is to solve the problems described above, by providing an adjustable support, particularly for radiators, having a self-supporting, stable and safe structure.

[0009] Within this aim, a particular object of the present invention is to provide an adjustable support which is particularly simple and quick to install and can also be assembled when the radiator is packaged.

[0010] Another object of the invention is to provide a support which avoids applying stress to the hubs of radiators.

[0011] Another object of the invention is to provide a support which is aesthetically improved and can be manufactured at competitive costs and is therefore advantageous from a purely economic standpoint.

[0012] This aim and these and other objects, which will become better apparent hereinafter, are achieved by an

adjustable support particularly for radiators, comprising a resting member and characterized in that it comprises a contoured portion which is monolithically joined to the upper end of the resting member, the contoured portion being slidably associated with the lower portion of a radiator.

[0013] Further characteristics and advantages of the invention will become better apparent from the following detailed description of preferred but not exclusive embodiments of an adaptable support according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a perspective view of an adjustable support according to the invention;

Figure 2 is a side view of the adjustable support of Figure 1;

Figure 3 is a perspective view of a second embodiment of an adjustable support according to the invention;

Figure 4 is a perspective view of a variation of the adjustable support of Figure 3;

Figure 5 is a perspective view of another variation of the adjustable support of Figure 3;

Figure 6 is a side view of another variation of the adjustable support of Figure 3;

Figure 7 is a side view of a different variation of the adjustable support of Figure 3;

Figure 8 is a side view of a third embodiment of the adjustable support according to the invention;

Figure 9 is a side view of the adjustable support of Figure 8, in a different operating position;

Figure 10 is a side view of a variation of the third embodiment of the adjustable support according to the invention;

Figure 11 is a side view of the adjustable support of Figure 10, in a different operating position;

Figure 12 is a side view of another variation of the third embodiment of the adjustable support according to the invention;

Figure 13 is a side view of the adjustable support of Figure 12, in a different operating position.

[0014] With reference to Figures 1 and 2, an adjustable support according to the invention, generally designated by the reference numeral 1, comprises a resting member which is constituted by two feet 2a and 2b having a tubular structure.

[0015] According to the invention, the support 1 has a contoured portion, which is joined monolithically with the upper end of the resting member and can be associated by sliding with the lower portion of a radiator 50. The contoured portion is formed by two half-shells 3a and 3b, that together form a receptacle 4 whose shape is substantially complementary to the shape of the lower portion of the radiator 50.

[0016] With the aid of a clamping and adjustment means, the two half-shells 3a and 3b, that are respec-

tively joined monolithically to the upper ends of the two feet 2a and 2b, can also interact with each other, clamping the lower portion of the radiator 50 with a particular caliper-like movement. The clamping and adjustment means is in fact constituted by a clamping screw 5, whose axis of action is substantially parallel to the bottom 51 of the lower portion of the radiator 50. The clamping screw 5 is interposed between the lower ends of the two half-shells 3a and 3b, so as to detachably join them and at the same time adjust their relative distance. The clamping and adjusting means also comprises a base plate 6, whose dimensions are proportionate to the width of the lower portion of the radiator 50. The base plate 6 is associated, by interlocking or welding, with the lower ends of the feet 2a and 2b. The base plate 6 facilitates the resting and anchoring of the entire structure to the floor and acts as a fulcrum during the tightening of the clamping screw 5, preventing the two half-shells 3a and 3b from moving mutually closer with a parallel orientation and consequently giving the clamping action the caliper-like movement.

[0017] A thermal insulation between the radiator 50 and the adjustable support 1 is provided by heat-insulating members 7a, 7b, 7c and 7d, that are associated by interlocking with the receptacle 4 and are interposed between the half-shells 3a and 3b and the lower portion of the radiator 50.

[0018] In a second embodiment of the adjustable support 1, shown in Figures 3 to 7, the base plate 6 is replaced by plugs 8a and 8b or, more advantageously, by a pair of bases 9a and 9b, that can be anchored to the floor and can be optionally protected by means of a pair of covers 10a and 10b. In this case, the fulcrum during the tightening of the clamping screw 5 is provided, so as to give the clamping action a caliper-like movement, by an abutment plate 11, which is interlocked between the upper ends of the feet 2a and 2b and whose dimensions are again proportionate to the width of the lower portion of the radiator 50.

[0019] In this second embodiment, in order to provide a perfect parallel arrangement of the radiator 50 with respect to the floor during installation, the clamping and adjustment means is provided with a fine adjustment screw 12, which is screwed onto a female thread provided centrally with respect to the abutment plate 11 so that the axis of action lies transversely to the plate and is such as to allow it to affect the lower portion of the radiator 50.

[0020] A third constructive variation of the support 101, according to the invention, may equally include the base plate 6 or the abutment plate 11, and is shown in Figures 8 to 13. Support 101 has two feet 102a and 102b each having a telescopic structure, which is constituted by a first tubular member 130 which can slide within a second tubular member 131. The relative sliding of the two tubular members, and consequently the space between the lower portion of the radiator 50 and the floor, can be controlled by a means for adjusting the height from the ground, which is constituted by a locking bolt 132, which

is associated with the second tubular member 131 and interacts with a slot 133 provided in the first tubular member 130.

[0021] For the variations of embodiment shown in Figures 8 to 13, the members that correspond to the members that have already been described with reference to the embodiments shown in Figures 1 to 7 have been designated by the same reference numerals.

[0022] The operation of the device according to the invention is as follows.

[0023] After associating by sliding the contoured portion of the adjustable support 1 with the lower portion of the radiator 50 and after resting the entire assembly on the floor, it is sufficient to tighten the clamping screw 5 in order to allow the half-shells 3a and 3b to clamp the lower portion of the radiator 50, possibly after correcting the parallel arrangement thereof with respect to the floor 60 by means of the fine adjustment screw 12.

[0024] During the tightening of the clamping screw 5, by means of the contribution of the base plate 6 and of the abutment plate 11, which act as a fulcrum, preventing the two half-shells 3a and 3b from closing in a parallel configuration, the half-shells clamp the lower portion of the radiator 50 with a caliper-like movement.

[0025] If it is necessary to adjust the distance between the lower portion of the radiator 50 and the floor, it is possible to resort to the third constructive variation of the adjustable support 1, by adjusting the relative sliding of the first tubular member 130 and of the second tubular member 131 by the means for adjusting the height from the ground.

[0026] In practice it has been found that the adaptable support, particularly for radiators, according to the invention fully achieves the intended aim and objects, since it ensures particularly high stability by virtue of its self-supporting structure, which in any case remains simple and quick to install and most of all does not affect the hubs of radiators.

[0027] This application claims the priority of Italian Patent Application No. VI2006A000126, filed on 27 April 2006, the subject matter of which is incorporated herein by reference.

[0028] The adjustable support particularly for radiators thus conceived is susceptible of numerous modifications and variations, within the scope of the appended claims. All the details may be replaced with other technically equivalent elements.

[0029] In practice, the materials employed, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to requirements and to the state of the art.

Claims

1. An adjustable support particularly for radiators, comprising a resting member and **characterized in that** it comprises a contoured portion which is monolith-

ically joined to the upper end of said resting member, said contoured portion being associated, by sliding, with the lower portion of a radiator.

2. The adjustable support according to claim 1, **characterized in that** said contoured portion comprises a receptacle which is shaped substantially complementarily with respect to said lower portion of said radiator.
3. The adjustable support according to one or more of the preceding claims, **characterized in that** said contoured portion comprises two half-shells that form said receptacle on their upper end and can be associated by sliding and subsequent clamping with said lower portion of said radiator.
4. The adjustable support according to one or more of the preceding claims, **characterized in that** said resting member comprises two feet, which are respectively joined monolithically with the lower ends of said two half-shells.
5. The adjustable support according to one or more of the preceding claims, **characterized in that** it comprises an clamping and adjustment means adapted to join said two half-shells at their lower end.
6. The adjustable support according to one or more of the preceding claims, **characterized in that** said clamping and adjustment means comprises at least one locking screw which is interposed between said lower ends of said half-shells, said clamping screw being adapted to detachably join said half-shells and change their mutual distance, determining said clamping of said lower portion of said radiator.
7. The adjustable support according to one or more of the preceding claims, **characterized in that** said clamping and adjustment means comprises at least one abutment plate, which acts as a fulcrum during said clamping of said lower portion of said radiator and is associated with the upper ends of said two feet.
8. The adjustable support according to one or more of the preceding claims, **characterized in that** said clamping and adjustment means comprises at least one base plate, which acts as a fulcrum during said clamping of said lower portion of said radiator and is associated with the lower ends of said two feet and can be anchored to the ground.
9. The adjustable support according to one or more of the preceding claims, **characterized in that** said clamping and adjustment means comprises at least one fine adjustment screw, which is associated with a female thread provided in said abutment plate and

has an axis of action which lies transversely to said abutment plate.

10. The adjustable support according to one or more of the preceding claims, **characterized in that** said resting member comprises a pair of bases, each of said bases being associable with the lower ends of said two feet and being anchorable to said floor.
11. The adjustable support according to one or more of the preceding claims, **characterized in that** each of said two feet comprises a telescopic structure.
12. The adjustable support according to one or more of the preceding claims, **characterized in that** said telescopic structure comprises at least one first tubular member and at least one second tubular member, said first tubular member being able to slide within said second tubular member.
13. The adjustable support according to one or more of the preceding claims, **characterized in that** said telescopic structure comprises a means for adjusting the height from the ground.
14. The adjustable support according to one or more of the preceding claims, **characterized in that** said means for adjusting the height from the ground comprises at least one slot and at least one locking bolt, said slot being formed in said first tubular member and said locking bolt being associated with said second tubular member in order to interact with said slot.
15. The adjustable support according to one or more of the preceding claims, **characterized in that** said contoured portion comprises a plurality of thermally insulating members that are associated with said receptacle and can be interposed between said adaptable support and said lower portion of said radiator.

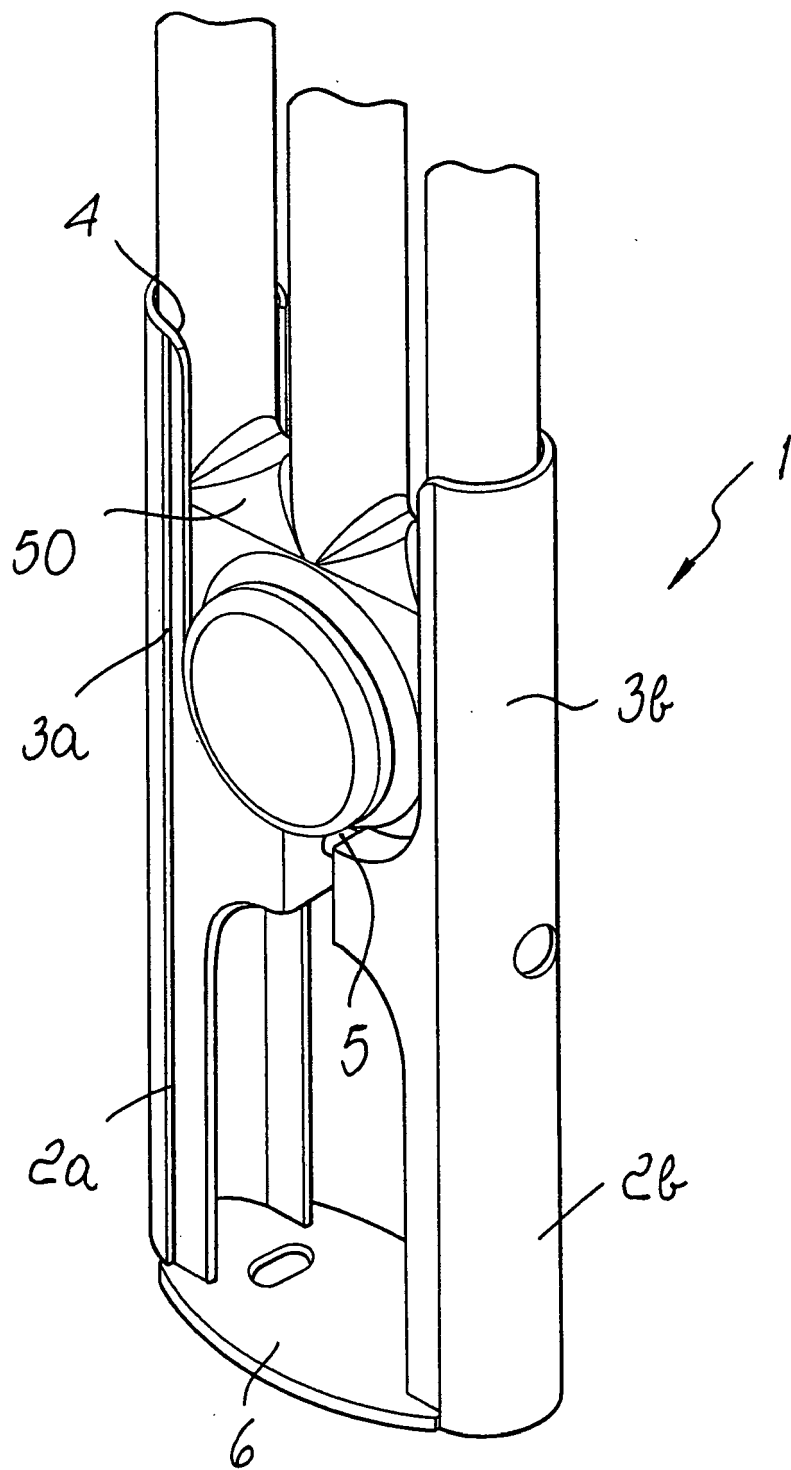


Fig. 1

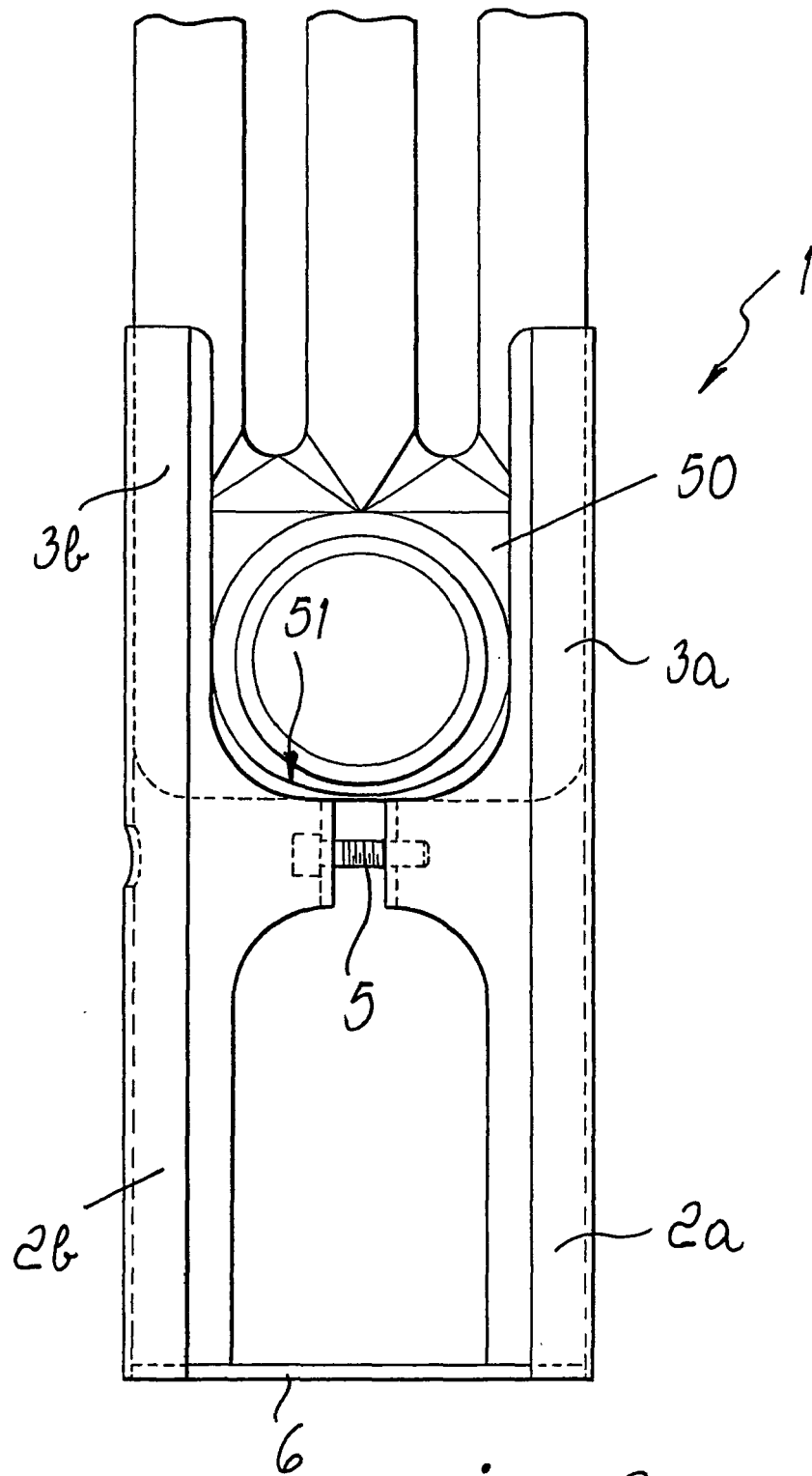


Fig. 2

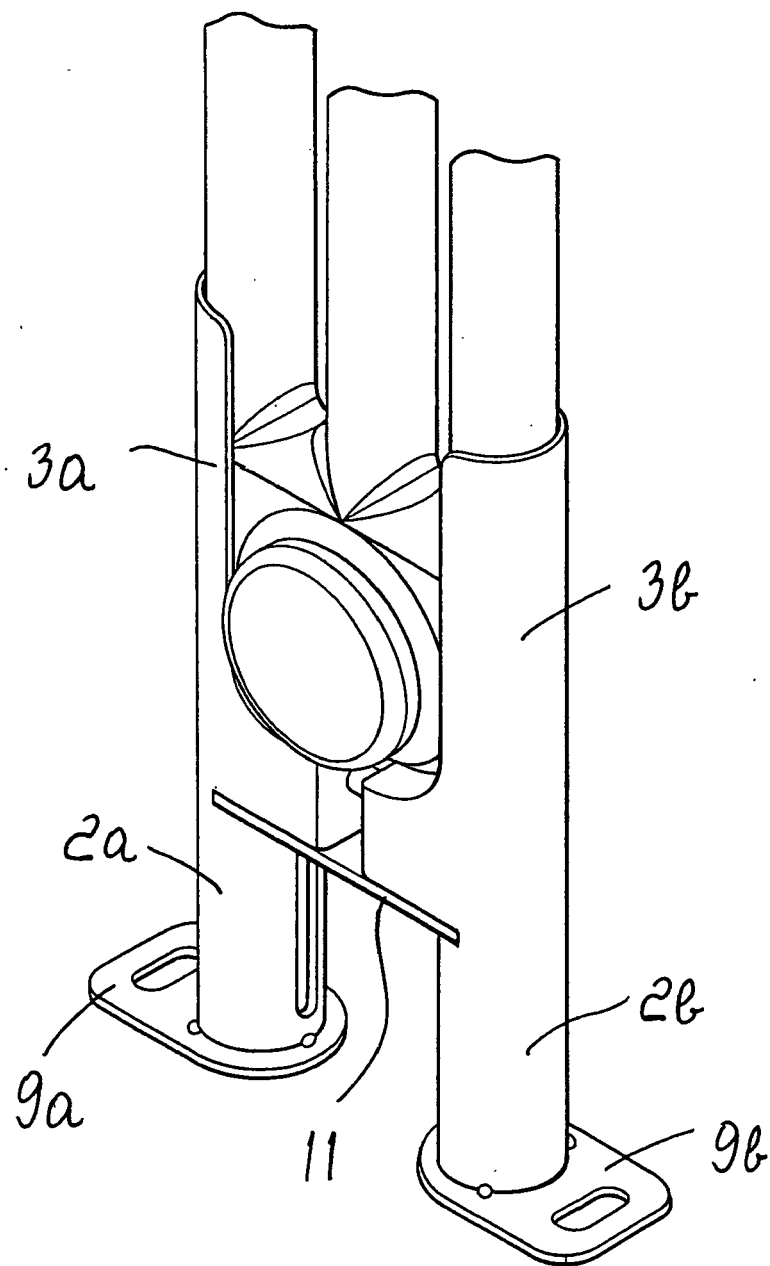


Fig. 3

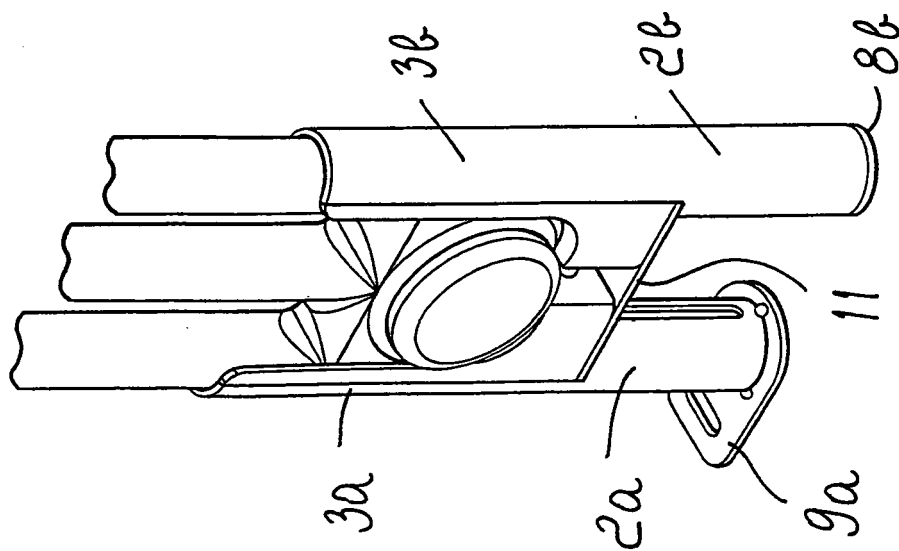


Fig. 4

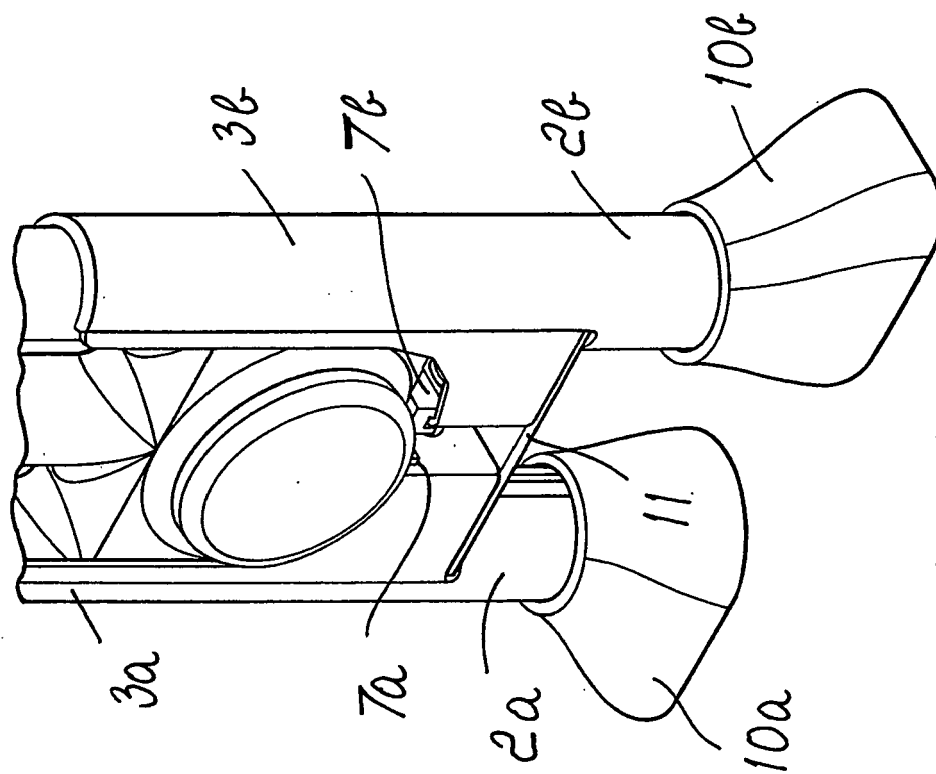
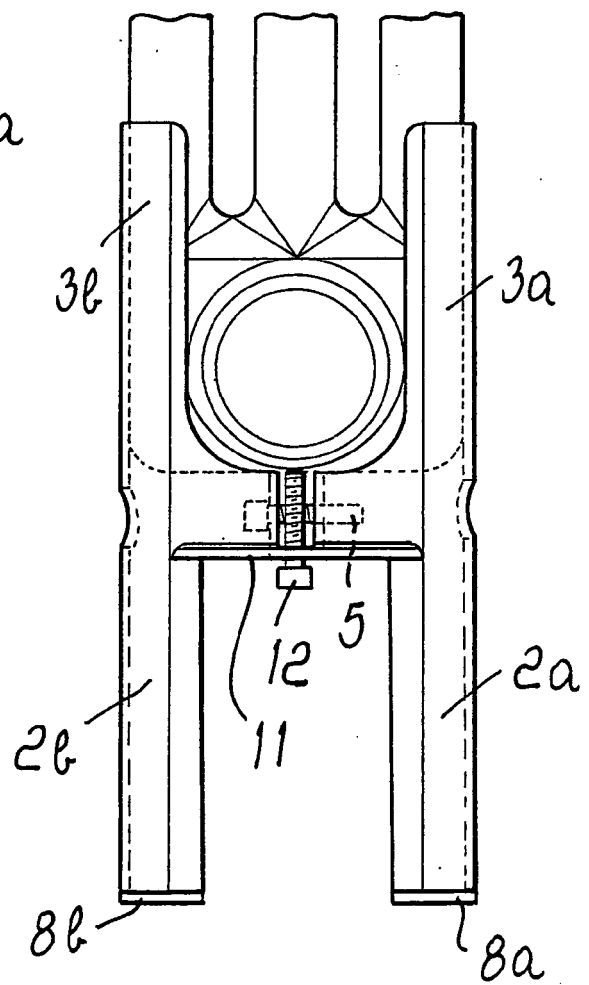
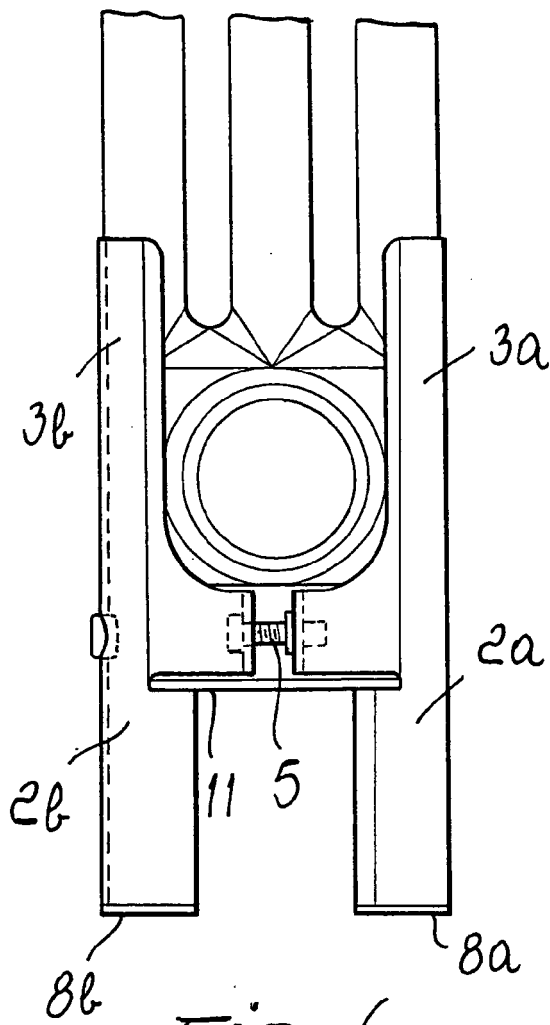
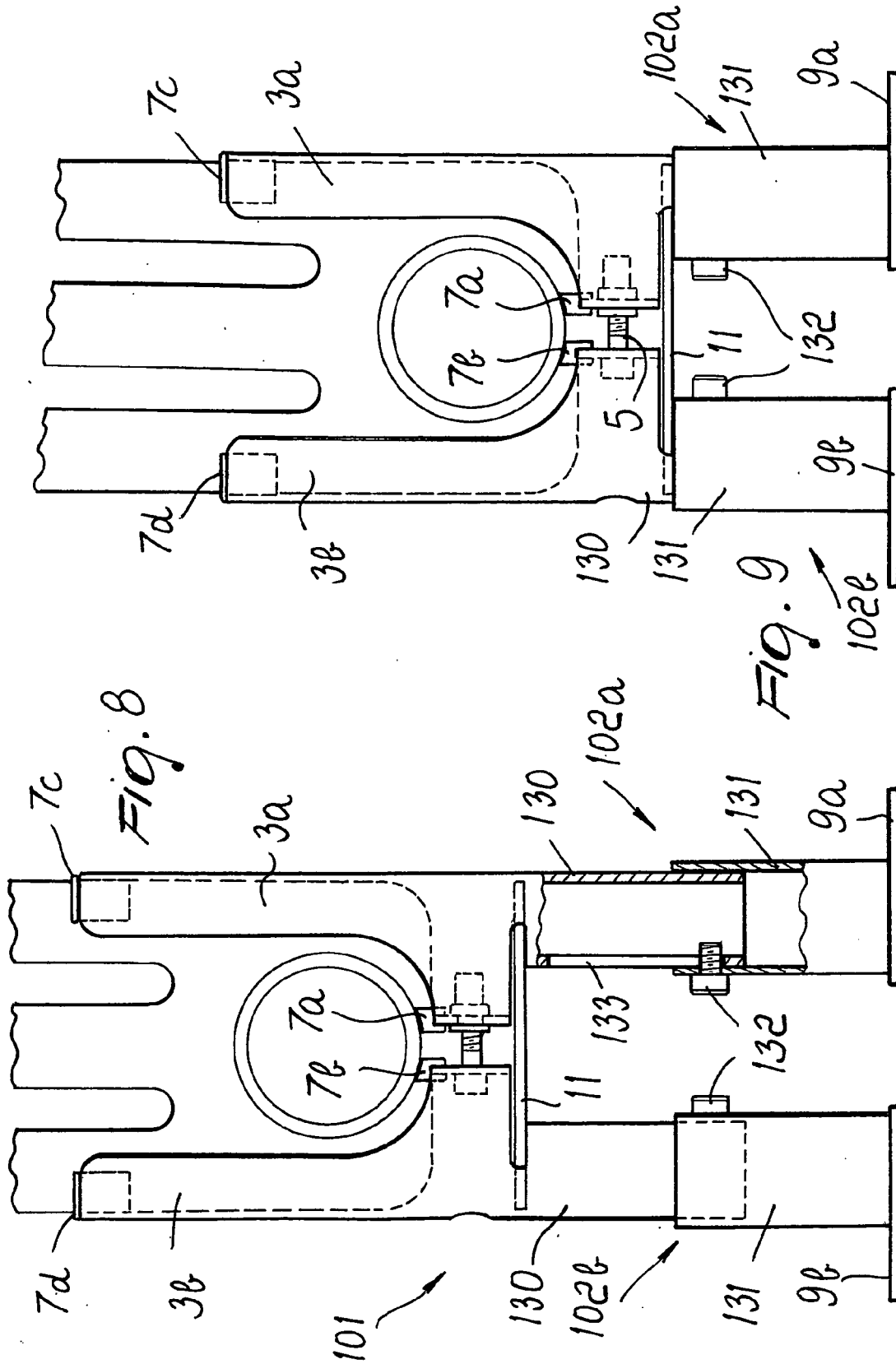
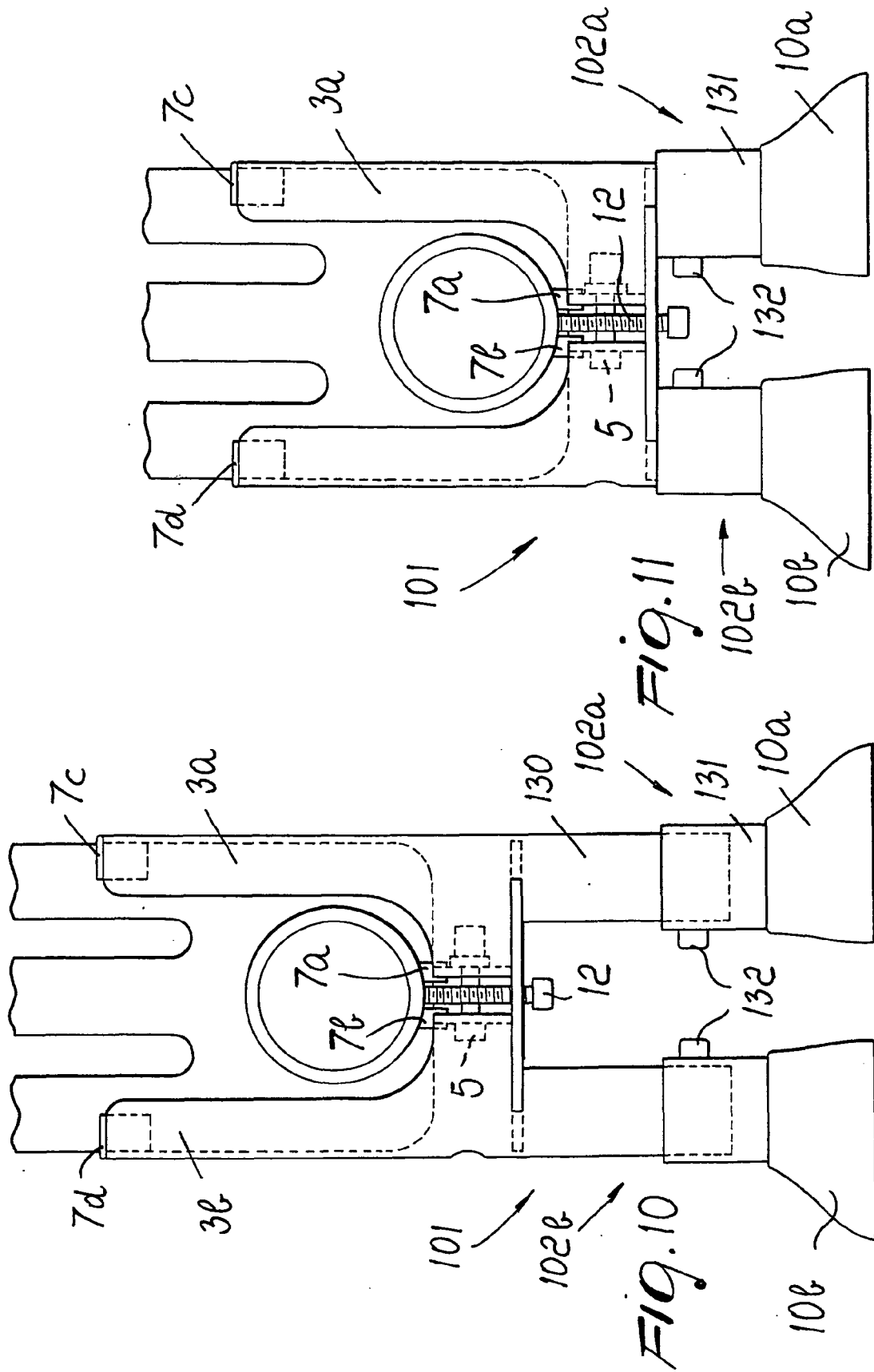
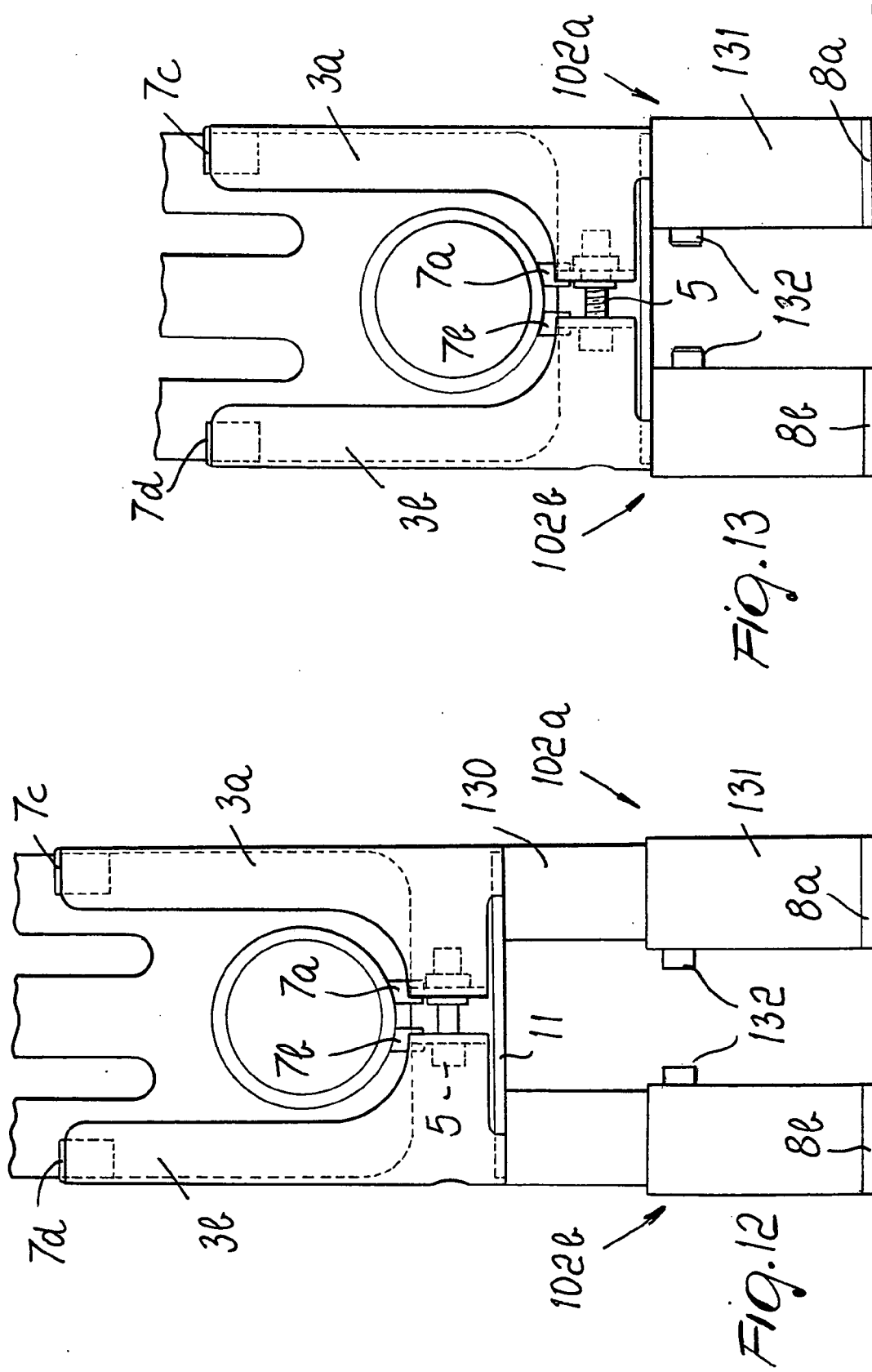


Fig. 5









REFERENCES CITED IN THE DESCRIPTION

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